

ABSTRACT

A laser scan type fluorescence microscope comprises a laser light source section, an objective lens optical system by which excitation light from the laser light source section is condensed on a sample, a scanning means by which the excitation light from the laser light source section is scanned on a surface of the sample, a pupil projection lens arranged between the scanning means and the objective lens optical system, a detection optical system for detecting fluorescence which is emanated from the sample and has penetrated the objective lens optical system and the pupil projection lens. Here, the objective lens optical system has an image forming lens for forming an intermediate image of an objective lens and the sample, and a backside focal position of the objective lens becomes conjugate at a position near the scanning means by the image forming lens and the pupil projection lens, wherein the following is satisfied:

$$0.15 \leq D/L \leq 0.5$$

where D is the focal length of the objective lens, and L is the distance to the conjugate position of the backside focal position of the objective lens arranged near the scanning means from the sample surface.